

Appl. No. 10/707,340  
Amdt. dated 07/07/2005  
Reply to Office action of 05/05/2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended): A process for removing SO<sub>2</sub>, NO, and NO<sub>2</sub> from a gas stream comprising the steps of
  - a. oxidizing at least a portion of NO in a gas stream to NO<sub>2</sub> with an oxidizing means resulting in a mole ratio of SO<sub>2</sub> to NO<sub>2</sub> of at least 2.5 to 1, followed by
    - b. scrubbing at least a portion of SO<sub>2</sub>, NO, and NO<sub>2</sub> from the gas stream with a scrubbing solution comprising ammonia, and having a pH between 6-5 and 8, and
    - c. removing at least a portion of any ammonia aerosols generated from the scrubbing step from the gas stream with an aerosol removal means.
2. (original): The process of claim 1, wherein said oxidizing means is an electrical discharge reactor.
3. (canceled)
4. (currently amended): The process of claim 32, further comprising the step of oxidizing at least a portion of the NO to HNO<sub>3</sub> with said dielectric-barrier-electrical discharge reactor.
5. (original): The process of claim 1, wherein said oxidizing step is adapted to result in a mole ratio of SO<sub>2</sub> to NO<sub>2</sub> of at least four to one.
6. (currently amended): The process of claim 1, said scrubbing solution

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comprising ammonia, ammonium sulfite, ammonium sulfate, and water  
and  
having a pH between 6-5 and 8.

7. (original): The process of claim 1, wherein said aerosol removal means is a wet electrostatic precipitator.

8. (original): The process of claim 1, wherein said scrubbing step results in the formation of ammonium sulfate, the process further comprising the step of withdrawing ammonium sulfate from the scrubbing solution.

9. (original): The process of claim 4, wherein said scrubbing step results in the formation of ammonium nitrate, the process further comprising the step of withdrawing ammonium nitrate from the scrubbing solution.

10. (currently amended): A process for removing SO<sub>2</sub>, NO, NO<sub>2</sub>, and Hg from a gas stream comprising the steps of

a. oxidizing at least a portion of the NO in a gas stream to NO<sub>2</sub>, and at least a portion of the Hg in a gas stream to HgO, with an oxidizing means, followed by

b. scrubbing at least a portion of the SO<sub>2</sub>, NO, and NO<sub>2</sub> from the gas stream with a scrubbing solution comprising ammonia, and

having a pH between 6-5 and 8, and

c. removing at least a portion of any ammonia aerosols generated from the scrubbing step, and HgO, from the gas stream with an aerosol removal means.

11. (original): The process of claim 10, wherein said oxidizing means is an electrical discharge reactor.

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12. (canceled)

13. (original): The process of claim 10, wherein said aerosol removal means is a wet electrostatic precipitator.

14. (currently amended): The process of claim 10, said scrubbing solution comprising ammonia, ammonium sulfite, ammonium sulfate, and water, and having a pH between 6-5 and 8.

15. (original): The process of claim 14, wherein said scrubbing step results in the formation of ammonium sulfate, the process further comprising the step of withdrawing ammonium sulfate from the scrubbing solution.